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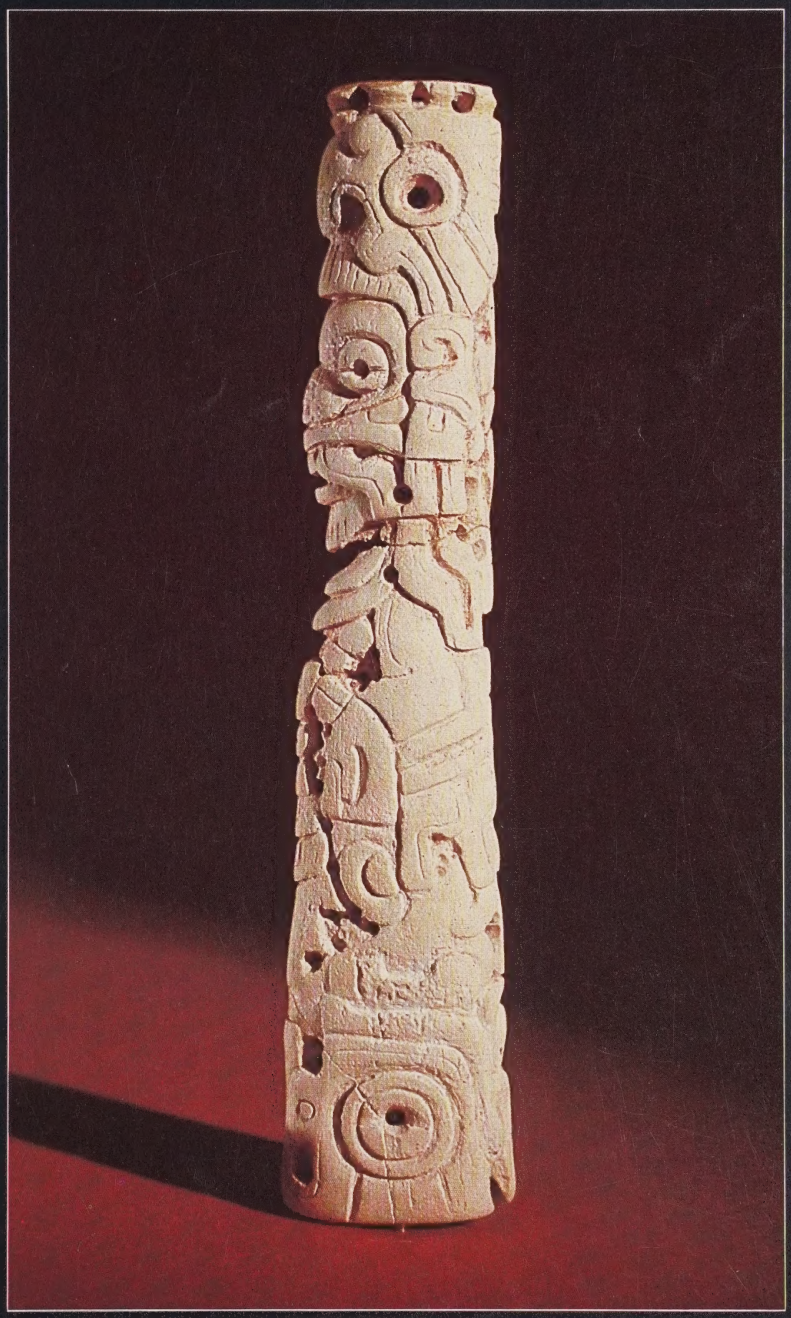

An Ancient Maya Dignitary Memorabilia

Glimpses of Pre-Inca Settlements

An Ancient Industry Revived

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ROTUNDA

the magazine of The Royal Ontario Museum

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Cover photo: Carved bone tube from Lamanai, Belize. (Photo Photography Department, ROM.)

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Focus on . . .

Paul Kane and Mount St Helens

Edward S. Rogers and Walter M. Tovell

PAUL KANE LEFT TORONTO for Sault Ste Marie on 9 May 1846 to join the fur brigade of the Hudson's Bay Company, which was once again heading west with supplies for the company's far-flung trading posts spanning the continent. By 8 December, Kane had crossed the Great Plains, negotiated the Rocky Mountains, and descended the Columbia River as far as Fort Vancouver, which was near the present site of Portland, Oregon. It was on this westward journey that Kane viewed and sketched Mount St Helens on several occasions. On 26 March 1847 he wrote in his diary (subsequently published as *Wanderings of an Artist among the Indians of North America from Canada to Vancouver's Island and Oregon Through the Hudson's Bay Company's Territory and Back Again*):

> When we arrived at the mouth of the Kattlepoutal River, twenty-six miles from Fort Vancouver, I stopped to make a sketch of the volcano, Mount St. Helen's . . . It is of very great height, and being eternally covered with snow, is seen at a great distance. There was not a cloud visible in the sky at the time I commenced my sketch, and not a breath of air was perceptible: suddenly a stream of white smoke shot up from the crater of the mountain, and hovered a short time over its summit; it then settled down like a cap. This shape it retained for about an hour and a-half, and then gradually disappeared.

On 30 March Kane again had a view of the mountain, and he wrote in his diary:

> We landed at the Cowlitz farm . . . I had a fine view of Mount St. Helen's throwing up a long column of dark smoke into the clear blue sky.

Cowlitz farm was located on the north side of the Cowlitz River, a tributary of the Columbia, north and slightly west of Mount St Helens. It had been established by the Hudson's Bay Company in 1838 for the production of cowhides and mutton tallow, and a year later had come under the management of the newly formed Puget Sound Agricultural Company, a subsidiary of the Hudson's Bay Company. By the time Kane arrived, it was a thriving community.

In his painting *Mount St. Helens*, Kane depicts Indians observing an eruption from their dugouts. But who are these Indians? No doubt Kane based his rendition on some of the Indians he had met between Fort Vancouver and Cowlitz farm. It is obvious from the painting that they are members of what Kane called the "Flathead tribes", a name derived from their custom of deforming their infants' heads. Of

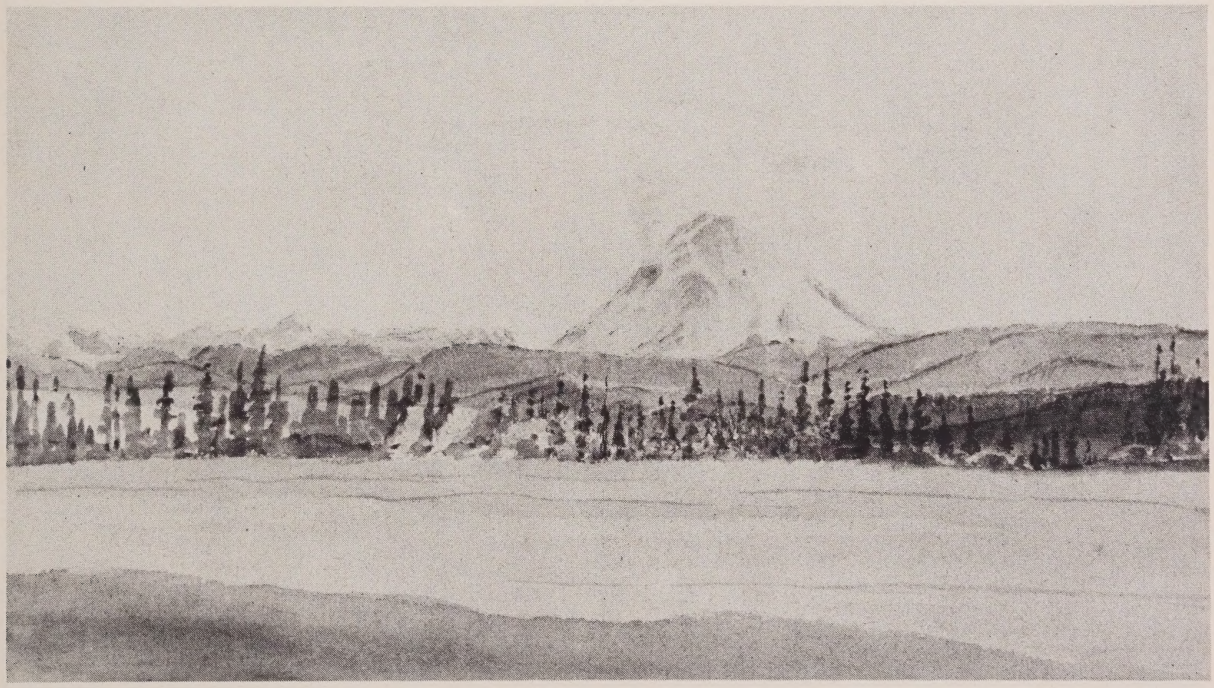
the many groups in the area comprising these "tribes", Kane mentions the Chinook and Cowlitz Indians living south and east of Mount St Helens.

These Indians had a culture very similar in many respects to that of other Indians who inhabited the North Pacific Coast. Salmon formed their principal food. They travelled by dugout canoe, lived in villages consisting of a number of plank houses, which were sometimes subterranean. They wore little clothing, may have engaged in potlatching, and had a social system comprised of classes; chiefs ruled over the commoners and slaves that composed each village.

The volcanic origin of Mount St Helens is reflected in references to the mountain by the Indians of the region. One of the local groups, the Klickitats, called the peak *Tah-one-lat-clay*, meaning Fire Mountain. Mount St Helens, however, is only one peak in a system of volcanic mountains known as the Cascade Range, whose development can be traced over millions and millions of years. The mountains of the range extend from northern California to southern British Columbia and contain such well-known peaks as Lassen and Shasta in California, Jefferson and Hood in Oregon, Rainier and Baker, and of course Mount St Helens, in Washington, and Garibaldi in British Columbia. There have been at least seven volcanic eruptions in the Cascade Range in the last 150 years; intermittent eruptions of Lassen Peak between 1914 and 1921 were the most recent—until Mount St Helens.

In 1792 Mount St Helens was named by Captain George Vancouver in honour of a British diplomat, Alleyne Fitzherbert, Baron St Helens. The mountain is located on the north side of the gorge of the Columbia River. With Mount Adams and Mount Hood, it forms the "Guardians of the Columbia", a triumvirate of peaks steeped in Native lore.

When Mount St Helens was originally surveyed, it had an altitude of 2,950 metres. After the catastrophic explosion of 18 May 1980, the elevation was reduced by about 400 metres. The force of the explosion was estimated to be 500 times greater than that of the atomic bomb dropped on Hiroshima. The ash that was blown out sub-horizontally was incandescent. The material that rose vertically reached a height of 25 kilometres and spread eastward at an average rate of 120 kilometres per hour.



View of Mount St. Helens *from the Cowlitz farm (ROM946.15.184). This sketch from the Department of Ethnology will be on view in the Canadiana Gallery until February 1981, along with a second sketch* Mount St. Helens from the Kattlepoutal River *(ROM946.15.329).*

But what of the eruption of Mount St Helens sketched and painted by Paul Kane? What he actually observed in 1847 was a fairly quiet event in a phase of the mountain's history that began in 1800 and lasted until 1857. The dating of the initial event of this phase was based on Indian oral history recorded by American explorers; the explosion was apparently of great magnitude. Succeeding spectacular events occurred from 1842 to 1843. It seems probable then that what Kane painted was based on what he heard about earlier eruptions rather than on what he observed during his stay at Cowlitz farm. This assumption is substantiated by a diary entry on 26 March:

> About three years before this the mountain was in a violent state of irruption for three or four days, and threw up burning stones and lava to an immense height, which ran in burning torrents down its snow-clad sides.

The history of Mount St Helens recorded in art and literature is supported by geological evidence, which suggests that "the entire visible part of the mountain" was built within the last 2,500 years. This relatively short period of development makes the Indian designation for Mount St Helens, Fire Mountain, very appropriate; many generations of Native people must have observed the growth of the mountain.

Of course geological evidence goes much further back than 2,500 years. The visible part of the mountain rests on an ancestral St Helens with an eruptive history beginning 37,600 years ago. In fact, the modern volcanic history of Mount St Helens is but a very short chapter, covering a very small area, in the story of the building of the Cascade Range, which covers a very much wider area and an infinitely greater period of time.

Dr. Rogers is Curator-in-charge of the Department of Ethnology; Dr. Tovell is Head of Ontario Museums Support and Advisory Services.

Mount St. Helens (ROM912.1.78). *The painting from the Department of Ethnology will be on view in the Canadiana Gallery until the end of 1981. (Photos Photography Department,* ROM.)

Structure N10–4. A workman clears away backdirt after excavation of Burial 46. Beyond him is the dark stratum which held earlier Post-Classic burials.

An Ancient Maya Dignitary

A Work of Art from the ROM's Excavations at Lamanai, Belize

David M. Pendergast

NO EXCAVATION IN THE MAYA LOWLANDS of Central America can fail to produce significant and exciting new information, since each site differs from all others in many respects. It is usually true as well that no dig of any duration can fail to recover objects of great significance and interest, though many such objects have value which may be visible only through an archaeologist's eyes. The artifacts with which we deal most of the time are the mundane things of everyday life, but they often hold clues to the rise and fall of Maya civilization at least as important as those contained in the burial chambers of the society's rulers. Occasionally, though, we discover artifacts that combine archaeological significance with great aesthetic quality.

Lamanai, where we began work in 1974 (see "The Church in the Jungle", *Rotunda* 8:2, 1975, pp. 32–40), has yielded its share of striking discoveries; one outstanding example is the jade mosaic mask described in "A Face from the Past" (*Rotunda* 10:1, 1977, pp. 4–11). We still have two or possibly three seasons to go before the excavations draw to a close, so it is not yet time for selection of the expedition's outstanding discovery. There can hardly be any, though, that will exceed in archaeological and aesthetic significance a discovery made during excavation of a cemetery structure in 1977.

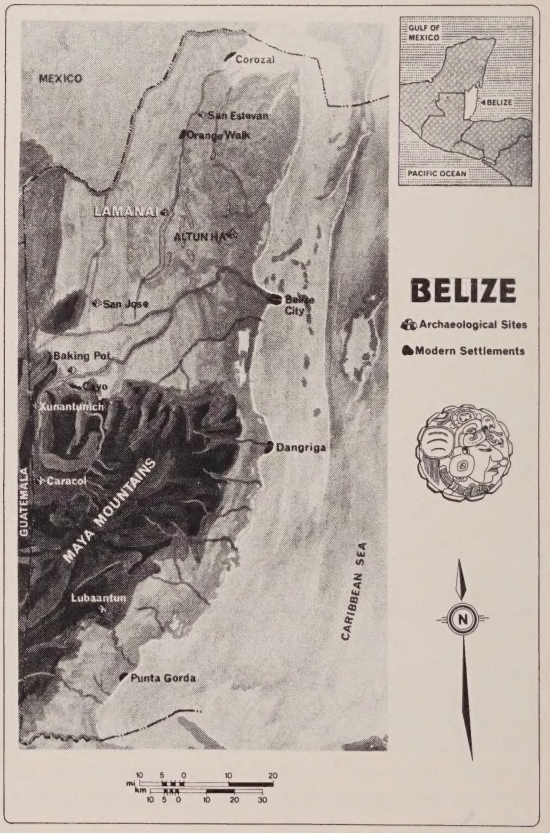
Of the many buildings at Lamanai which seemed on the surface to hold little promise of yielding important information and materials, few if any were less prepossessing than Structure N10–4. A low, featureless pile of stones and earth, the structure was distinguished only by its location at the margin of the lake on which the site borders; it was in a group of buildings which we knew to be of Post-Classic (11th to 16th century A.D.) date, and therefore of major interest. Lamanai is the only known site in the Central Maya Lowlands of Belize and the Guatemalan Petén that saw intense occupation in the Post-Classic, a period in which other sites were abandoned or very lightly inhabited. At Lamanai, however, life in the Post-Classic was a continuation of what had gone on in the 1,500 to 2,000 years before, and the nature of and reasons for that continuum are the principal subject of our investigations.

Having encountered ceremonial buildings and numerous burials of the Post-Classic in neighbouring structures, we turned to N10–4 to expand our knowledge of the period; almost immediately we came upon burials, which eventually reached a total of forty-four. Burials are of interest because they are usually accompanied by a range of artifacts, and when many interments occur in a single construction unit the grave goods provide evidence on contemporaneous styles in pottery and other classes of objects, which in the Post-Classic include metal artifacts of various kinds. The burials in N10–4 were all in one addition to the building, but were certainly not all interred at one time. At the time of excavation we had, and we still have, problems in determining the sequence of events in the history of the structure; nevertheless, the large quantity of ceramics and other artifacts recovered made N10–4 an invaluable source of additional information on the Post-Classic. Because of this, we extended our excavations over the entire cemetery area, completing the work (or so we thought) in 1975.

In 1977 we returned to N10–4, not to search for additional burials but to try to clarify events in the history of the building before it was put to use as a mortuary structure. Pottery accompanying one burial found just below the Post-Classic mortuary stratum indicated that the underlying building was constructed in the Late Classic, probably in the 8th century A.D. To learn what we could of this early stage of the structure, we set out to cut a section trench through what remained of it after the Maya chopped off the top of the building in preparation for its conversion to cemetery use.

The first portion of our trench told us little beyond

Above: Stuccoed cylindrical censer; its base can be seen at the extreme right of the photograph on the opposite page.



Burial 46 seen from the northwest. In the foreground are the secondary burials.

some details of construction; then, near the planned western limit of our cut, we struck another burial, set far deeper in the structure than any we had encountered two years earlier but obviously of Post-Classic date. Forced by this discovery to widen our trench, we decided to carry the enlarged cut back eastward through the area already sectioned. The result was that we had a basic lesson of archaeology forcibly impressed on us once again, when by digging beyond where we had planned to stop we came upon the most important, and possibly the latest, of all the burials in N10–4.

Burial N10–4/46, the largest and most complex of all the burials in the structure, lay in a grave nearly two metres long by one metre wide and about 175 cm deep. Within the pit were the remains of at least five individuals, including a teenager placed face down at the bottom of the grave with his arms spread outward in a manner not found in any other Lamanai burial. As the youth was the first person buried, it is logical to view him as the most important member of the group, in whose honour the other individuals were interred. This assumption seems to be supported by the fact that many of the accompanying artifacts were clearly or very probably associated with the youth.

The large number of individuals sets Burial 46 apart from other burials in the structure, as does the grave location, centred almost exactly on a line we term the primary axis. This vital spot, an imaginary line extending along the building centre from front to rear, seems to have been seen by the ancient Maya as a sort of lifeline, connecting the structure to the gods who controlled the community's existence. Because of this, the primary axis was generally chosen as the spot for offerings, and placement of a burial on the axis was obviously a mark of great distinction.

The importance of Burial 46 is further attested by the nature and variety of the grave goods. This fact was apparent almost from the moment we began the several days of painful work required to excavate a complicated burial at the bottom of a large grave. Set on all sides of the skeletons were pottery vessels forming an assemblage unlike any encountered in other burials at the site and clearly a reflection of the rank or status of at least one of the grave's occupants. Among the vessels was a unique giant pierced stuccoed cylinder, apparently a censer, which had been broken in two; one half was placed at the southeast corner and the other at the northeast corner of the mass of bones, for reasons that I fear we shall never fathom.

In addition to the cylinder there were ten other vessels set around the burial, including two matched pairs of red tripod dishes, unusual occurrences in themselves in that almost all ancient Maya vessels seem to have been individual productions, even in the more standardized ceramic manufacture of the Post-Classic. Each member of the undecorated pair (drawing, **e** and **f**) has three animal-head feet, while the pair with incised decoration on the body is highly unusual if not unique in that each vessel has

Right: Pedestal-base jar-censer, identical to the one labelled **a** *in the archaeological drawing, except for the shape of the vents in the base.*

*Below: Redware carved bowl found inside the pedestal-base jar-censer (***c** *in the archaeological drawing).*

two human-head feet and the third foot in the form of an animal head (**g**). There is yet another redware dish, with large human-head feet (**d**), which unlike the other dishes had been broken and scattered in several areas of the grave, in the fashion of earlier Post-Classic times.

At one corner of the burial mass, near the teenager's right hand, stood a large pedestal-base redware jar or censer with carved and pierced decoration; curiously, it was buried with one section of the rim missing. At the opposite corner lay pieces of a similar vessel (**a**), differing from its companion only in the form of the pierced pedestal ornamentation. Within the whole jar-censer was an undamaged round-side bowl of similar ware and decoration; a mate to it in shape, but not in decoration, sat at the left elbow of the teenager (**b** and **c**). The jar-censer also contained the fragmentary remains of a stuccoed bowl or gourd, inside which the redware bowl appeared to have been nested. The body of the object had rotted away completely, leaving only bits of stucco coating decorated with red paint on a light green ground. In addition to all these vessels there was an undecorated redware bowl, set beside the base of the giant stuccoed cylinder. All in all a most impressive lot of vessels, but far from the total assemblage in the grave.

As well as the ceramic artifacts, the grave contained two jade beads, such oddities as a shark tooth, two animal teeth, a crab claw, and a very large chert dagger. The dagger was identifiable as such because the white hafting glue somehow avoided the destruction that was the usual fate of such material, and shows clearly that the stem of the beautifully chipped blade was fixed in a broad handle rather than in a spear-shaft. We also found a single pear-shaped copper bell and three small gold sheet objects, all badly damaged; these had probably been coverings, or at least front facings, for wooden discs or other objects, but their original forms could no longer be determined. Together with the pottery, these artifacts surely denote the status of at least one of the individuals in the grave, just as they tell us a considerable amount about the wealth of the late Post-Classic community at Lamanai.

The pottery vessels fix the date of the interment with reasonable precision, since some of them, particularly the two pairs of tripod dishes, are of a ware known as Tulum Red, named for a famous late Post-Classic site on the rugged coast of Quintana Roo, north of Belize. The presence of this ware indicates a date in the 15th or early 16th century, and of course this date can be applied, with a few of the usual equivocations employed by archaeologists, to the other pottery accompanying the burial. This is an important point, for the whole and the fragmentary carved redware jar-censers and the two similarly decorated bowls are of a ware not previously reported, and might not have been datable had they not been found in association with the Tulum material.

Evidence for trade among the Burial 46 grave goods includes the copper bell, the gold, and perhaps even some of the Tulum vessels, while contemporaneous local manufacture is represented by the stuccoed cylinder and probably the other redware

vessels, as well as by the large knife. One could scarcely have a better illustration of the sorts of information, over which I have skimmed very lightly indeed, that are lost when associations such as those in this burial are destroyed by looting.

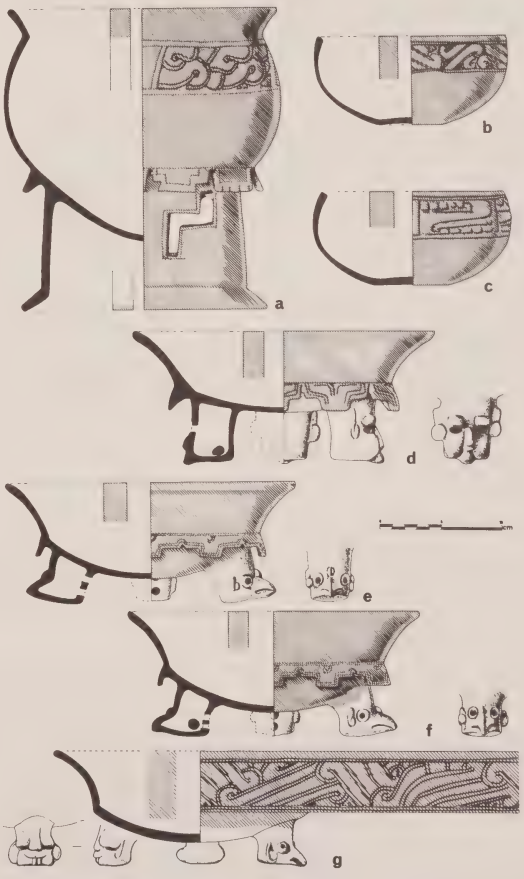
Many of the objects mentioned have some beauty in addition to their value as pieces in the archaeological puzzle, but none approaches in aesthetic quality an object which lay at the very edge of the grave bottom, almost as though it had been placed there as an afterthought. It was a carved bone tube and as fine a piece of work in this medium as has ever been found in the Maya area.

The preservation of the finely carved tube is probably due largely to the position chosen for its burial, away from the bodies in the grave. Though hard and moderately durable, bone will succumb to decay if the circumstances are right; witness the condition of a fine carving in manatee rib from Altun Ha, the lower portion virtually destroyed because the object was in direct contact with the corpse it accompanied. The Burial 46 tube, which appears to be made from a human tibia, luckily escaped such a fate; apart from a break in the upper portion and some loss along the lower edge on one side, it is essentially in pristine condition. We were fortunate in this case, but I do not think that we can go on to assume that there were once great lots of similarly elaborate objects which have disappeared in the tropic dampness. Rather, it appears that major bone carvings were comparatively rare to begin with, and have been further reduced in numbers by the ravages of time.

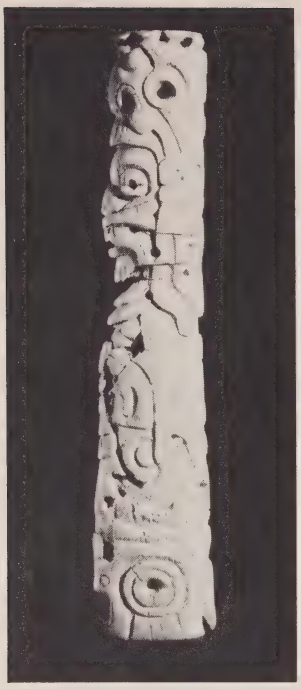
The personage depicted in the fifteen-centimetre-high carving is clearly an important dignitary, judging by his costume. He seems to be a human being rather than a deity, though it may be that all major figures in the power structure of ancient Maya society were imbued with at least some godlike qualities. In any case, the depiction seems to be generally realistic rather than symbolic, though it is as likely here as in representations of human beings on pottery vessels (see "People on Pots", *Rotunda* 4:1, 1971, pp. 26–35) that the carving does not portray an actual individual.

Atop his bobbed hair, the individual wears a large headdress in the form of a stylized bird's head, perhaps that of a macaw if one can judge by the shape of the beak. His ears are concealed beneath large, complex ear ornaments with scrolls at the top and dependent curved lower elements which appear to extend down onto his shoulders. Possibly attached to the ear ornaments is a bar, bifurcated at the ends, which passes beneath his nose and has curved elements extending down over the cheeks. Apart from the strongly depicted eyes and the characteristically prominent nose, the most striking feature of the figure's face is a fairly luxuriant beard, which appears to be squared at the bottom. Beards have had various connotations in various societies, perhaps sometimes changing as frequently as they have in our own culture. Their occurrence in Maya naturalistic depictions of human beings is not extremely widespread, but it is far from unknown, as a figure from the famous Actun Balam Vase from Belize attests.

Beneath his chin the dignitary sports what appears to be a double gorget or complex chestplate. It lies over part of a necklace of large beads from which hangs a massive ornament consisting of a quadrangular pendant with side bows or ties, above an arrangement of four overlapping elements with a large side-notched object at their base. Such neck and chest jewellery in Classic depictions is often thought to represent jade, though of course there is no colouring to substantiate such an identification. In this case, the beads of the necklace obviously could be meant for jade, or for almost any other material out of which a bead can be fashioned. The remainder of the ornament, however, seems unlikely to represent that prized green material which to the Maya symbolized fertility; the shapes and sizes of the elements argue for identification as something other than jade, and again almost any material might be represented.



Vessels from Burial 46 (drawn for archaeological publication). Vessel **g** *is one member of the second matched pair.*



Above: Carved manatee rib figure from Altun Ha; height 11.1 cm.

Top left: The carved bone tube; height 15 cm. See cover.

Top right: The carved bone tube as seen through the eyes of Department of New World Archaeology staff artist David Findlay.

Photos: pp. 5, 6 left, 7, 8 (2) David Pendergast, ROM*: pp. 6 right, 10 top right and bottom David Findlay,* ROM*: p. 9 Georgina Hosek; p. 11 Leighton Warren.*

The figure's arms are shown at his sides, bent at the elbows with the hands inclined downward, the fingers curled and the palms apparently turned towards the front, in an odd and presumably uncomfortable position. His right hand seems to grasp an object shaped very much like the body of a slingshot, but in fact the position of the hand may indicate that the object is a support rising from below. Over his back he wears a layered cape, portions of which are folded or pleated in such a way as to conform to the crook of his elbows. The garment is divided at centre rear, where a large two-element tassel hangs down to or below knee level; at each side are shorter tassels suspended below a heavy border element. The front of the cape and its fastenings are unfortunately concealed beneath the chest ornament.

The figure's lower limbs are not shown, since he stands on or in what appears to be a highly stylized animal head, its eyes in the form of large discs with centre perforations and its jaws rising to a point not far below the base of the chest ornament. While the nature of the depiction leaves identification of the creature open to some question, the carving is probably meant to represent a serpent. Serpents played a role in Maya art disproportionate to their numbers in the lowland jungles; this was especially true in the Post-Classic, when scarcely a decorated vessel was produced without a snake's head somewhere on it, at least until the Tulum style of ornamentation such as can be seen in the drawing (labelled **g**) came into vogue. If the bone gentleman was in fact carved at the same time as the vessels were manufactured, it would seem that the disappearance of ophidian

heads from pottery did not mean their complete erasure from the iconographic scene.

Scattered throughout the carving are numerous drilled pits and perforations which at first glance do not seem to have any recognizable pattern or function. Some, especially those between the hands and the chest ornament and in a line at the rear edge of the object below the figure's right hand, appear to be traces of the manufacturing process, but given the quality of finish which marks most of the carving it is possible that the pits were made for a specific purpose. Purposeful production of small depressions is in evidence elsewhere in the carving, though the use for which the indentations were intended cannot be determined. It is possible that the pits were part of a lily-gilding in which pigment or some other material was used to increase the decoration of a carving which scarcely seems to need further adornment. The numerous perforations piercing the figure from the top of the headdress to the mouth of the probable serpent could likewise have been for attachment of additional ornamentation, but all evidence on this point is now far beyond our grasp.

While there are many areas of uncertainty regarding the carving, we can be sure of one thing: it is the work of a real master, whose handling of obsidian and other delicate tools produced not only a beautiful delineation of features but also a great deal of low-relief embellishment of the major forms. Such an effort required not only talent but time; both were vital features of Maya art, the first because both the artist and the users of an object obviously sought the highest quality in such pieces, and the second because the work of producing a special object was very probably in itself a kind of offering to the gods. Such a view of the bone figure puts the carving in that great archaeological catch-all category of ceremonial objects, but both the nature and the quality of the artifact suggest that this is a case in which the designation is quite likely to be correct.

Classification of an artifact as a ceremonial object is usually the archaeologist's way of saying that he has no idea whatsoever of how the object was used, but that its elaborate nature indicates a connection with religious belief and practice. In fact, very few objects, even in our society, have features that clearly indicate use, if it is the details of that use that concern us. For a carved bone object that clearly had no utilitarian purpose, use must remain a mystery. It could have been set up on an altar, carried in processions, worn as part of a ruler's raiment—there are certainly perforations which would have permitted suspension of the tube from a cord or necklace—or employed in any one of countless other ways. The simple fact is that we can never know the particulars of the carving's use, any more than we can determine the identity or rank of the person it portrays. What we are able to do is to assess the archaeological significance of Burial 46 and, building on this information, to reconstruct some facets of life in the late Post-Classic both at Lamanai and in the Maya Lowlands in general. We can also appreciate the bone figure as evidence of the abilities of a gifted carver who, perhaps less than a century before the arrival of the Spaniards, created one of the true masterpieces of ancient Maya art.

A bearded ceremonial hunter from a vase of probable 7th-century A.D. date, Actun Balam Cave, Belize.

David Pendergast joined the ROM in 1964 and is Curator in the Department of New World Archaeology. Since joining the ROM he has directed excavations in Belize, first at Altun Ha (1964–1970) and now at Lamanai, where the Museum will be at work through 1984. He is now beginning the eighth season at Lamanai, having just completed the second of five volumes of the Altun Ha final report; Excavations at Altun Ha, Belize, 1964–1970, Volume 1 *was published by the ROM in 1979.*

Lieutenant Colonel Francis Lennox Cartwright's decorations and medals, left to right:

Distinguished Service Order *(Boer War). This decoration is a silver-gilt cross enamelled white and edged gold. In the centre of the cross, within a wreath of laurel enamelled green, is the Imperial Crown in gold. On the reverse, within a similar wreath, and upon a similar ground, is the Royal Cipher "VR". This order was established in 1886 to reward individual instances of meritorious or distinguished service in war.*

Queen's South Africa Medal *(clasps: Natal, Orange Free State, Belfast, South Africa 1901). On the obverse is the head of Queen Victoria. On the reverse is the figure of Britannia with a flag in her left hand and a laurel wreath in her right hand, which is extended towards an advancing party of soldiers. In the background is the sea with men-of-war upon it and at the top are the words* SOUTH AFRICA. *The medal was awarded for any service in South Africa between 11 October 1899 and 31 May 1902.*

1914–15 Star. *This medal is a four-pointed star in bright bronze with two crossed swords surrounded by a wreath with the Royal Cipher "GV" at the base and a scroll in the centre with the date 1914–15. The reverse is plain and is stamped with the name and unit of the recipient. The medal, sanctioned in 1918, was awarded for service in an actual theatre of war.*

British War Medal 1914–20. *The obverse of this silver medal shows the head of King George V. On the reverse St. George on horseback tramples the eagle shield of the Central Powers and a skull and crossbones, emblem of death. Above him is the risen sun of victory. The male figure, rather than the symbolic female figure, was chosen because men had borne the brunt of the fighting. The figure mounted on horseback symbolizes the control of a greater than human force (represented by the horse). Thus the design was also symbolic of the mechanical and scientific devices that helped to win the war. The medal was approved in 1918 to be given to those who had twenty-eight days' service in the forces between 4 August 1914 and 11 November 1918. The dates were later extended to 1920 to cover post-war service in Russia.*

Victory Medal *(with oak leaf). This bronze medal bears on the obverse a winged figure of Victory. On the reverse is the inscription "The Great Wa for Civilization". The bronze oak leaf on the ribbon of this medal was awarded for a mention in despatches. Only one leaf is worn, no matter how many "mentions" the wearer may have received. The medal was awarded to members of the Imperial, Dominion, and Colonial forces who had actually served on the establishment of a unit in a theatre of war within specified periods.*

Edward VII Coronation Medal. *The obverse bears the crowned effigies of Edward VII and Queen Alexandra, surrounded by a wreath. The reverse has the Royal Cipher "E VII R" and the (planned) date of the coronation, 26 June*

1902. The medal was awarded to all members of the forces and the NWMP *assigned to take part in the coronation pageantry.*
War Cross 1918 (Czechoslovakia). *On the obverse in four conjoined circles are the arms of the four states—Slovakia, Moravia, Silesia, and Ruthenia—that constituted the Republic of Czechoslovakia. The reverse has three leaves in each circle and the initials "C S" in the centre. This decoration was awarded to Czech officers and men, and to those of the Allied forces, who had been mentioned in Czech despatches for a particular service.*

Memorabilia

The Medals of Lieutenant Colonel F. L. Cartwright

Frank J. Dunbar

TO A MILITARY MAN, his medals are the memories of his service in uniform, but they are more than that. They are memorabilia, part of the history of military expeditions and encounters, significant for the honour they do valiant men and interesting for their designs and symbols. The fifteen decorations, medals, clasps, and citations awarded Lieutenant Colonel Francis Lennox Cartwright (1874–1957) span a long career of service from the last decade of the 19th century through World War II; they also reflect the involvement of Canadians in events both at home and abroad. Cartwright served with the North West Mounted Police in the Yukon during the gold rush of 1898, in South Africa during the Boer War, and in Europe and Siberia during World War I. During World War II he came out of retirement in England to command a unit of the British Home Guard.

Frank Cartwright was born in Kingston, Ontario, the fifth son of Sir Richard Cartwright, who was a member of parliament for nearly fifty years and a notable figure in Canadian government, serving as a cabinet member in the Mackenzie and Laurier governments and acting as prime minister in Sir Wilfrid Laurier's absence in 1897, 1902, 1907, and 1911. Perhaps because 1874 was an election year, Frank was given the second name of Lennox, after his father's constituency at that time. Young Cartwright was nineteen years old when he was first commissioned a second lieutenant in the 14th Regiment (Militia) at Kingston. He was promoted to lieutenant on 20 April 1894, and two years later, at the age of twenty-two, he was made captain.

On 1 February 1897 Cartwright was appointed to be an inspector in the North West Mounted Police at a salary of $1,000 per annum. For the next few weeks there was a gentlemanly exchange of letters between Cartwright and the Controller of the NWMP in Ottawa, Lieutenant Colonel F. W. White, about "when it would be convenient for Captain Cartwright to take up his appointment". In the spring of 1897 Cartwright reported to the NWMP depot at Regina.

Inspector Cartwright had no qualms about involving his father in advancing his own interests. In the summer of 1897 the world became aware of the gold strike at Bonanza Creek in the Yukon. When later in the year the NWMP were called upon to police the gold fields, Cartwright's request for transfer to that duty was turned down by Assistant Commissioner L. W. Herchmer, NWMP, Regina, but there were other ways. From the Public Archives of Canada comes the following excerpt from a letter from White to Herchmer, dated 19 January 1898:

> Dear Herchmer:
> Sir Richard Cartwright would like to have his son detailed for duty in the Yukon and I told him a few days ago that I thought that having had a year's experience in the Territories, his request could be complied with. . . . Now put on your thinking cap and see if you can find some justification for changing your opinion.

The appeal was effective, for in his annual report for 1898, Superintendent S. B. Steele, commanding NWMP in the Yukon Territory, noted: "Inspector Cartwright arrived from Regina with 20 non-commissioned Officers and Constables on the 20th March for duty in the Yukon."

The main route to the Yukon gold fields was from the Alaskan town of Skagway on the Pacific coast over the mountains thirty miles to Lake Bennett, the headwaters of the Yukon River. Two strong parties of the NWMP were posted on the Chilkoot Pass and White Pass summits to establish customs offices on the true boundary and to guard the passes. Each station was provisioned for six months and had machine guns and an ample supply of ammunition. The men were housed in tents; a cabin, which was to be the customs house and the quarters for the officer in command, was under construction on each summit. Cartwright's own report, published as part of the NWMP annual report to Sir Wilfrid Laurier for the year 1898, tells the story:

> I left Skagway on Sunday the 27th of March together with Superintendent Steele for the [White Pass] Summit. We arrived the same day making the trip from Skagway on horseback in four hours. The strength of the detachment was at this time four non-commissioned officers and 16 men and four horses . . . Duty was, at times,

Above: The reverse of the Queen's South Africa Medal (first striking). The arrow points to the "ghost" number 9, which can still be seen at the edge of the worn spot where the dates 1899–1900 have been removed.

Right: The North West Mounted Police contingent to Edward VII's coronation marching in review at Alexandra Park, London, June 1902, with Inspector Cartwright at the head.

most severe, a fine day being the exception, not the rule. The snow, unlike other parts of the Territories, was a kind of wet sleet which froze as it fell, . . . The Summit from 10:00 a.m. until about 12:00 reminded one of a busy market day in some eastern town. In fact, the traffic was so great at times that it was necessary for us to interfere in order to prevent a jam. The class of people who went in this year, as a general rule, were not legitimate miners and . . . were practically without money when they reached the Summit.

Cartwright stayed in the White Pass area through the summer of 1898, mainly in support of the newly installed civilian inspector of customs. The initial gold rush was over, but the White Pass continued to grow in importance as a traffic route. However, an officer was no longer required at the summit, and in 1899 Cartwright was transferred to the Dawson Division. In October 1899 war broke out in South Africa between Great Britain and the Boer Republics; a month later Cartwright was transferred to the depot at Regina to prepare for service in South Africa.

With the outbreak of the Boer War, Canada, as a member of the British Empire, was faced with the question of what her role should be. Political pressure in favour of participation was so strong that within a few days Prime Minister Laurier was confronted with the choice of resigning or sending a Canadian force to the fighting front. The cabinet authorized the recruiting of volunteers "not to exceed 1,000 men" and provision for their transportation to South Africa. Men were to be enlisted for six months' service, with the possibility of a further six months' extension. In December 1899 a second contingent was authorized.

In response to a call for still more men, and particularly men suited to the open, mobile type of warfare being waged on the African veld, Lord Strathcona and Mount Royal, the Canadian High Commissioner in London (better known as Donald A. Smith of the Canadian Pacific Railway) offered to make a personal contribution to the war effort. In a telegram to Laurier, he proposed to arm, equip, and send to South Africa, at his own expense, a mounted regiment of 400 men in addition to the Canadian contingents already raised. The men would be recruited in the Canadian Northwest and would be unmarried, expert marksmen, at home in the saddle, and efficient as rough-riders or rangers. His offer was ac-

Inspector F. L. Cartwright, North West Mounted Police (c. 1902). Medals were worn separately and in a different sequence from present-day practice.

cepted and Superintendent Steele, now a lieutenant colonel, was appointed to command the regiment, which was named Strathcona's Horse. Steele was permitted to take with him any volunteers from the NWMP who could be spared from their duties. Inspector Cartwright was given leave from the NWMP and received an Imperial Army commission as a captain in Strathcona's Horse.

On 17 March the regiment was ready to sail; 28 officers, 512 other ranks (including some reinforcements for other units), and 599 horses were embarked at Halifax on the *Monteray*. The regiment arrived at Table Bay on 10 April and prepared to move forward. Such was the demand for scouts and horsemen that there were determined efforts by officers already in Africa to break up the regiment so that volunteers might be attached to other units, but Steele kept it together. However, it was not to go inland at once.

On 1 June, in extreme secrecy, Steele took B Squadron, brought up to a strength of 200, by sea to Kosi Bay on the southern border of Portuguese East Africa. His sealed orders were to blow up a railway bridge over the Komati River. The expedition was abandoned on the basis of intelligence (which later proved to be false) that large detachments of the enemy were deployed between the coast and the target. The squadron moved on to Durban and from there the entire regiment went to the border of the Transvaal to join General Buller's army at Zandspiuit. For the next six months Cartwright took his part in operations in the Transvaal (including actions at Belfast, Lydenburg, and Frederikstad) and in the Orange River colony.

By December 1900, it was the general opinion that the war would soon be over and so on 11 January 1901, since the men of Strathcona's Horse were nearing the end of their twelve-month period of engagement, Steele received orders to embark for Canada via England (the route had been arranged by Lord Strathcona). The regiment sailed from Cape Town aboard the *Lake Erie* on 21 January. On 22 January Queen Victoria died, so that when the regiment arrived in London on 14 February, it was to prepare for inspection by Edward VII. The following day the regiment marched from Kensington Barracks to Buckingham Palace, where King Edward presented each officer and man with the Queen's South Africa Medal. Strathcona's Horse was the first regiment to receive the decoration, since the medal had only just been struck.

The Queen's South Africa Medal was eventually awarded to all British troops that had participated in the South African War between 11 October 1899 and 31 May 1902. There were two different strikings of the medal: in the first the wreath of Britannia on the reverse points to the "R" in AFRICA; in the second it points to the "F". Strathcona's Horse naturally received the first edition. The original design of the medal included the dates 1899–1900 in raised fig-

Reverse of the British War Medal 1914–20.

Insignia of a Commander of the Military Division of the Most Excellent Order of the British Empire. Awarded to Lieutenant Colonel Cartwright "for valuable services rendered in connection with military operations in Siberia".

ures on the reverse. Strathcona's Horse was entitled to receive the dated medals, but according to one authority only fifty medals with the raised dates were actually presented by Edward VII on 15 February. As it became evident that the Boers intended to continue the conflict beyond 1900, the dates were ground from the medals before they were issued. However, on many of them, including Captain Cartwright's, "ghost" dates can still be seen.

Of the twenty-six bars or clasps that were eventually awarded with the medal, five were termed "state", namely Cape Colony, Natal, Rhodesia, Orange Free State, and Transvaal. They were given for service in the various states in which so many small actions were fought that it would have been impossible to recognize each one with a bar. Thus Strathcona's Horse earned the Natal and Orange Free State bars for general service in those areas. In addition, the regiment was awarded the Belfast bar for that specific action. The fourth bar, South Africa 1901, was awarded to troops that were not eligible for the King's Medal (issued for eighteen months' service ending in 1902). Strathcona's Horse earned this bar for eleven days' service at the front in early January 1901.

Additional awards and promotions were announced in the supplement to the *London Gazette* of 19 April 1901. Captain Cartwright received the Distinguished Service Order "in recognition of service during operations in South Africa".

Cartwright earned more than medals in South Africa. Miss Ada Perkins of Homewood, Surrey, whose ideas and practices were far in advance of her time, left Victorian England in 1900 to follow her brother to South Africa to "watch the war". She took with her her maid and her favourite horse, Gossoon. She and her brother between them had three horses, and of course the third horse had to be exercised. Cartwright was delighted to take on this pleasant task when he was not engaged in regimental duties. Ada Perkins and Frank Cartwright were married at Homewood on 16 April 1901. Later they returned to Canada, where Cartwright was to take up his new appointment with the NWMP at Calgary.

With the South African situation well in hand, plans were begun for the coronation of Edward VII and Alexandra. The coronation was scheduled for 26 June 1902. Thus in May 1902, twenty-four non-commissioned officers and constables of the NWMP from the nineteen NWMP divisions of the day gathered at Regina to prepare themselves and their horses to represent the force at the coronation. From Calgary, Cartwright was detailed to command the detachment, which included Sergeant A. H. L. Richardson, who had won the Victoria Cross while with Strathcona's Horse in South Africa.

Unfortunately Edward VII was taken ill and the coronation had to be postponed. Although a number of gatherings had been scheduled, there was only one major parade, at Alexandra Park, in which the detachment marched on foot. Cartwright and every man of the detachment received the Edward VII Coronation Medal.

On 3 February 1904 Inspector Cartwright's resignation as a commissioned officer in the NWMP was accepted to take effect on 9 March 1904. For a short time, Cartwright farmed in Kingston, Ontario, at Glen Lawrence, the first farm downstream from Sir Richard's family home on Cartwright Point, but he soon decided to return to the regular army. His old friend Colonel Steele was by then in charge of Military District No. 10 (Winnipeg). Steele was given the additional duty of Commanding Officer of the newly established permanent-force regiment Lord Strathcona's Horse (Royal Canadians), formerly the militia regiment Canadian Mounted Rifles. On 15 May 1910 Cartwright was appointed captain in his old regiment.

When war was declared in 1914, the regiment was in the midst of the annual summer concentration. It returned at once to barracks in Winnipeg to await further orders. On 16 August the regiment was moved to Valcartier Camp in Quebec, with newly promoted Major Cartwright in command of A Squadron. The regiment sailed from Quebec City aboard the *Bermudian* in a convoy of thirty-two transports, protected by two battleships, four cruisers, and escorting destroyers—the largest convoy up to that time to sail the Atlantic Ocean.

For nearly seven months, Lord Strathcona's Horse remained in England, awaiting some development in Europe that would call for the cavalry. But whereas in South Africa the conflict had been mobile and had required mounted riflemen, in Europe the war had become a series of static infantry engagements. Because of the shortage of infantry, Lord Kitchener agreed to take the Canadian Mounted Brigade, including Lord Strathcona's Horse, dismounted to serve as foot soldiers, providing the troops themselves were given the opportunity of volunteering. There was not one man of the regiment who did not volunteer, and so on 4 May 1915, 25 officers and 463 other ranks landed at Boulogne, France, as part of the British 3rd Army. On 22 May the regiment moved into trenches and received its baptism of fire. For the next two months, it provided support to the 1st Canadian Division and the 2nd Canadian Infantry Brigade in the vicinity of Vimy Ridge. Thus the regiment earned the 1914–15 Star.

In June of 1915 the brigade moved north, but without Cartwright. On 4 May he had been appointed to Headquarters, 1st Canadian Division. In October he was appointed President, Field General Courts Martial and in January 1916 Assistant Provost Marshal, 3rd Canadian Division. He was mentioned in despatches on 28 December 1917, although as was often the case in World War I, no specific citation was included. In May 1918 Cartwright returned to England to become Assistant Provost Marshal at the Canadian Infantry Reserve Camp at Bramshott, under the command of Brigadier General J. H. Elmsley.

In March 1918 the Treaty of Brest-Litovsk brought an end to Russian participation in World War I and

Above: Silver bowl presented to Lieutenant Colonel Cartwright on his retirement from the Mersea Island Home Guard, World War II.

Left: Obverse and reverse of War Cross 1918 (Czechoslovakia).

the collapse of the eastern front. Not entirely unanimously, the Allies decided to deploy troops to Russia through Murmansk, through the Persian Gulf, and through Vladivostok to Siberia. There were several reasons for this intervention, including possible access for the Allies to the enormous natural resources of Russia, protection of the vast quantities of military stores previously provided by the Allies to tsarist forces, and support of the White Russians in their efforts to counteract the Bolsheviks.

The Canadian government, having decided that it would be politically expedient and perhaps commercially profitable for Canada to provide assistance to the Allied forces in Siberia, authorized the establishment of the Canadian Expeditionary Force (Siberia). Elmsley was given the rank of major general and was appointed to command the force, which became the 16th Infantry Brigade. The general returned to Canada where the troops would be assembled. Cartwright's service record shows that he too left Bramshott, on 12 October, to return to Canada en route to Siberia.

In the meantime on 11 October, just a month before the armistice, Elmsley had sailed from Vancouver, bound for Vladivostok with an advance party of 680. Although Cartwright sailed from Vancouver aboard the *Monteagle* on 17 November, the main body of Canadian troops destined for Siberia was still gathering at Willows Camp in Victoria. After Armistice Day, 11 November, Canadian public opinion seemed to turn against the provision of Canadian forces to join the Allies in bolstering the regime of Rear Admiral Alexander Kolchak, leader of the White Russian forces in Siberia. There were delays in bringing the two battalions, the 259th and the 260th, up to strength and further delays were ordered from Ottawa, so that it was not until the end of December that they sailed for Vladivostok.

In Vladivostok, the Canadians found themselves very much the late-comers, with billets at Second River about twenty miles from the city. Fortunately the barracks awaiting the men were originally well built, if only partly prepared by the advance party. Cartwright, who had been appointed Assistant Provost Marshal, Vladivostok, may have had a difficult task because the Canadians were in barracks some distance from the delights of downtown Vladivostok. In any case, he seems to have done a good job, for on 11 March 1919 he was promoted to lieutenant colonel. However, there is no known record of Cartwright's work in Vladivostok. In his book *Canadians in Russia 1918–1919,* Roy MacLaren records that the participation of the Canadians was limited, since their government would not permit them to leave Vladivostok for the operational area in the vicinity of Omsk, halfway across Russia on the Trans-Siberian Railroad. On 21 April 1919 the Canadian troops began to leave Russia for Canada. On 5 June General Elmsley and the remaining 653 Canadians, including Cartwright, sailed for Vancouver.

For his general service in World War I, Colonel Cartwright received the British War Medal (1914–20), for which the qualifying period of service was specifically extended to 1919–20 to cover service in Siberia, and the Victory Medal, which was awarded to all personnel of the navy, army, and air-force who had actually served during the war or in any of its official extensions. No separate Siberian or Russian campaign medal was issued. However, in addition to his promotion, Cartwright received three awards as a direct result of his seven months' service in Siberia.

The *London Gazette* of 14 January 1920 notes the award of the Commander of the Order of the British Empire (Military Division) to Lieutenant Colonel F. L. Cartwright "for services in Siberia". The same *London Gazette* records that the name of Lieutenant Colonel F. L. Cartwright has been "brought to the notice of the Secretary of State for War for valuable and distinguished services rendered in connection with Military Operations in Siberia". This has been taken to be the equivalent of another mention in despatches, but since Cartwright had already received this award in 1917 (shown by the single oak leaf emblem on his Victory Medal), no additional emblem was issued.

The most intriguing of all Cartwright's medals is the Czechoslovakian War Cross. In the supplement to the *London Gazette* of 29 June 1923, it is recorded that the king had approved the wearing of "the Croix de Guerre [sic] presented by the government of Czechoslovakia" to Lieutenant Colonel F. L. Cartwright, Lord Strathcona's Horse. The decoration is now known as the War Cross 1918. No details are given of any service that might have resulted in this Czechoslovakian award, or even of where it might have been won. However, the history of the Czech legion gives some inkling.

When the Allies first decided to evacuate the legion from the eastern front, there was no opposition from any quarter. The plan was to move the legion to Vladivostok and embark the troops on Allied ships which would take them to France. But then the Bolsheviks decided to oppose the move. So the Czechs took matters into their own hands and seized control of the Trans-Siberian Railroad from the Ural Mountains to Lake Baikal. In May 1918 they began to operate the railway and to assemble in Vladivostok. On 29 June, on the sound principle that a controlled railway line has no value if its terminal is not also controlled, the 15,000 Czechs in Vladivostok took over the city from the Russians. From then on, the British, the French, the Americans, the Japanese, and eventually the Canadians were very much the newcomers to the well-established Czech legion. We can only assume that Cartwright did some service for the legion which resulted in his being mentioned in a Czech despatch. As the Czechoslovakian government was not established until after World War I, the award was not actually made until 1923.

Cartwright retired on 15 May 1920 and almost immediately returned to England, where he settled in West Mersea near Colchester. When World War II broke out, he was visiting Canada and was stranded there for a few weeks before he could return to England. He was Commandant of the Mersea Island Home Guard until 1943 when, at the age of sixty-eight, he once again retired. Although he did not have the three years of service in the Home Guard necessary to qualify him for the Defence of Britain Medal, he did receive a presentation from his colleagues in his last command in the form of a silver rosebowl, suitably engraved.

The Cartwrights eventually moved to Fishbourne, Sussex, where they lived in a small country cottage in a large field complete with goats, rabbits, chickens, and a dog. The author, as a junior naval officer in 1949, spent many happy weekends in the tiny "two pub" village listening to Cartwright's recollections of the gold rush days.

Canadians Outside the Depot, Siberia, Russia *by Louis Keene. The painting is in the Canadian War Museum, Ottawa.*

Francis (Frank) J. Dunbar served as an officer in the Royal Canadian Navy from 1946 to 1972 when he retired to become Secretary to the Board of Trustees of the Royal Ontario Museum. He is an Affiliate of the Institute of Chartered Secretaries and Administrators, and is an active member of the Organization of Military Museums in Canada, the Ontario Museum Association, and the Canadian Museums Association. His research into the medals and career of his great-uncle and namesake, Lieutenant Colonel Francis L. Cartwright, is a spare-time activity. At present he is carrying out a search for and compiling a catalogue of retired regimental colours that are lodged in Canadian churches and public buildings.

Photos: pp. 12–13, 14 left, 16, 17, 18 (2) Brian Boyle, Photography Department, ROM; *p. 14 right* RCMP *Archives/Estate Lieut. Col. F. L. Cartwright; p. 15* RCMP *Museum, Regina; p. 20 Canadian War Museum, National Museum of Man, National Museums of Canada.*

Recent Publications

Naked Species of Gondolella (Conodontophorida): Their Distribution, Taxonomy, and Evolutionary Significance, ROM Life Sciences Contribution 125, Peter H. von Bitter and Glen K. Merrill, 51 pp., illustrated, $3.00 paper

Upper Cambrian to Lower Ordovician Conodont Biostratigraphy and Biofacies, Rabbitkettle Formation, District of Mackenzie, ROM Life Sciences Contribution 126, Ed Landing, Rolf Ludvigsen, and Peter H. von Bitter, 44 pp., illustrated, $3.00 paper

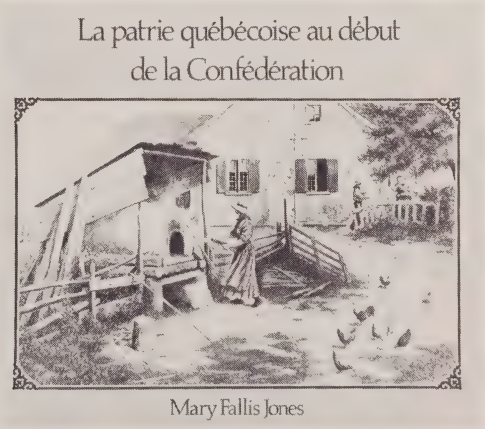
A New Species of the Genus Sarsia (Hydrozoa, Corynidae) from Vancouver Island and Puget Sound, ROM Life Sciences Occasional Paper No. 34, Anita Brinckmann-Voss, 4 pp., illustrated, $0.50 paper

The Huntsman Collection (Urochordata: Ascidiacea) at the Royal Ontario Museum, with an Annotated Catalogue of Huntsman's Types from British Columbia, ROM Life Sciences Miscellaneous Publication, Renate Carson, 22 pp., illustrated, $1.75 paper

Portrait Miniatures in the Royal Ontario Museum, ROM, H. Hickl-Szabo, 64 pp., illustrated, $5.95 paper
Fifty enchanting examples of portrait miniatures from the collections of the ROM's European Department are introduced to give an impression of the appeal of portrait miniature paintings. The miniatures are presented in chronological order. Each portrait is illustrated, some in colour, and descriptions of the sitter and artist accompany each example. For reference purposes, a bibliography is included. This book will not only be a welcome addition to the shelves of the collector's library, but it may also serve as a general introduction to a unique and often overlooked art-form.

La patrie québécoise au début de la Confédération, ROM, Mary Fallis Jones, 128 pp., illustré, $4.00 broché (paper)
Firsthand accounts, drawings, and newspaper excerpts provide an absorbing introduction to the everyday events and customs of late 19th-century Quebec. The material is taken from French-language newspapers, periodicals, and books of the period; it is accompanied by author's commentary and a sixteen-page section of questions and activities for students translated by Maurice Menu. A valuable historical resource document of French-language Canadian materials, the book contains excerpts chosen not only for their intrinsic interest but also for their elucidation of our French-Canadian heritage.

Des commentaires de première main, des dessins et des extraits de journaux composent une passionnante introduction à la vie quotidienne et aux coutumes de la fin du XIX^{e} siècle au Québec. Ces documents sont tirés de journaux, de périodiques et d'ouvrages de l'époque en langue française; ils sont accompagnés de commentaires de l'auteur et suivis d'une section de seize pages de questions et d'exercices pratiques à l'intention des élèves, traduite par Maurice Menu. Cet ouvrage qui rassemble des documents sur l'histoire des Canadiens français est une véritable mine d'extraits choisis non seulement pour leur intérêt intrinsèque mais encore pour les éclaircissements qu'ils donnent sur notre patrimoine canadien français.



Photos Photography Department, ROM.

Above: Between the Pacific coast and an altitude of 3,000 metres, arable land is restricted to the bottoms of the few valleys. The remaining land is desert.

Right: As far as the eye can see, the desert is covered with the remains of a pre-Colombian city.

Opposite page: The citadel of Quishuarani was already an important centre in pre-Inca times.

Glimpses of Pre-Inca Settlements

Helmuth Fuchs

Photos Helmuth Fuchs

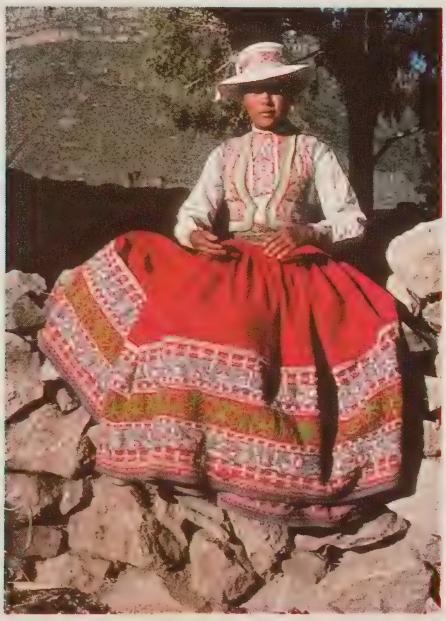
CAREFUL ESTIMATES PUT THE POPULATION of the Inca Empire (A.D. 1200–1500) at several million at the time of conquest by the Spaniards. Since urban concentrations were relatively rare, it was necessarily the rural population that sustained the empire. Intensive agriculture on elaborately irrigated terraces on the slopes of the Andean valleys, and to a much lesser degree breeding of smaller domestic animals, provided subsistence for these millions. What created a legendary well-being for both the individual and the community was the careful administration of the available natural resources, the systematic control of the massive force of human labour, and the continued expansionist wars. All in all, the Inca are said to have been masters in the management of their natural and human resources, but it is well recognized that this expertise had been developed by civilizations that preceded the Inca by several centuries.

To probe into these pre-Inca developments in the area between Lake Titicaca and the south coast of Peru, Dr. Eloy Linares Málaga, Director of the Museum of the National University of San Agustín in Arequipa, organized a research project from 10 March to 10 May 1980. He was kind enough to invite me to participate in the project as guest professor.

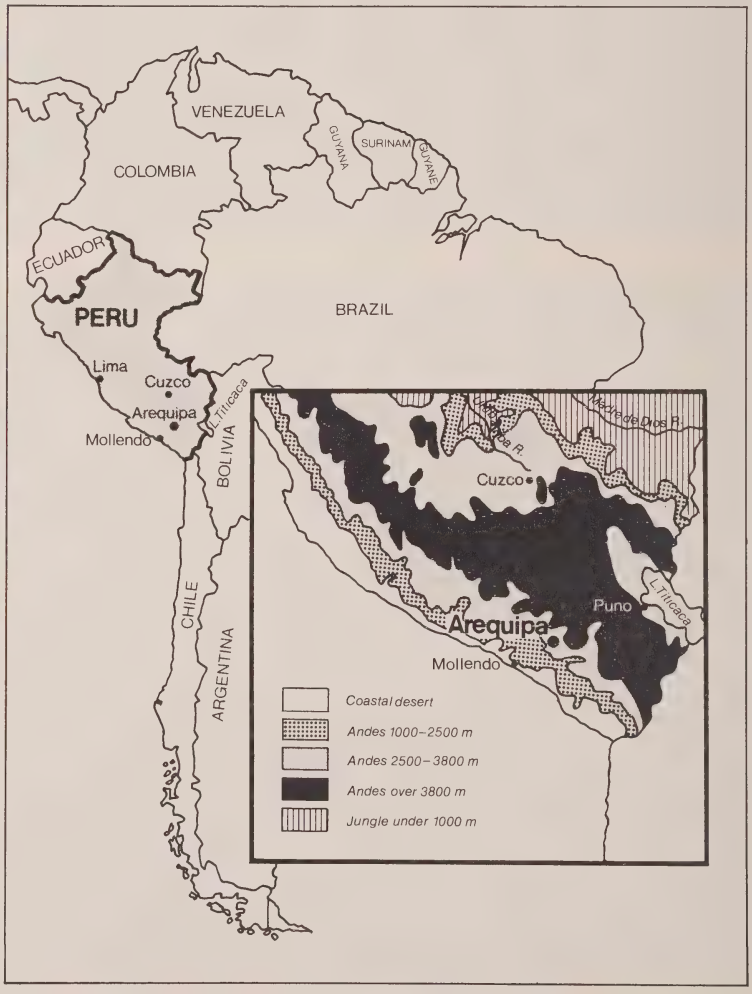
Essential to research into these pre-Inca developments is some knowledge of the environment. The many ecological niches in the region can be grouped in two main categories. The first encompasses the area that stretches from the extremely dry coast to near the 3,000-metre level. It has a very dry, temperate to warm climate and consists of desert plains without any vegetation interrupted every thirty or forty kilometres by deep valleys. The valley bottoms receive the waters of the melting Andean snows year round and therefore support intensive agriculture. The second category encompasses the region beyond the 3,000-metre level; it contains dry, cold stretches with only a little grassy vegetation called *puna* and many snowcapped peaks higher than 6,000 metres. The valleys (the upper reaches of the valleys just described) stretch some 1,000 to 2,000 metres below the surface of the *puna* and are much wider than in their lower course. A complicated system of irrigated terraces up the sides of the valleys provides very arable land. What surprises most people is that today only the lower third of the terraces is used for agriculture; the upper two-thirds is left untilled.

At present arable land comprises only two per cent of the region at most, but it appears that in the past not only was agricultural exploitation more intense but climatic conditions were better. Dried-up remains of vegetation in the side valleys seem to indicate a higher humidity only a few hundred years ago. Consequently there are good reasons to assume that the capacity of the area to support a human population was greater in the past than it is today.

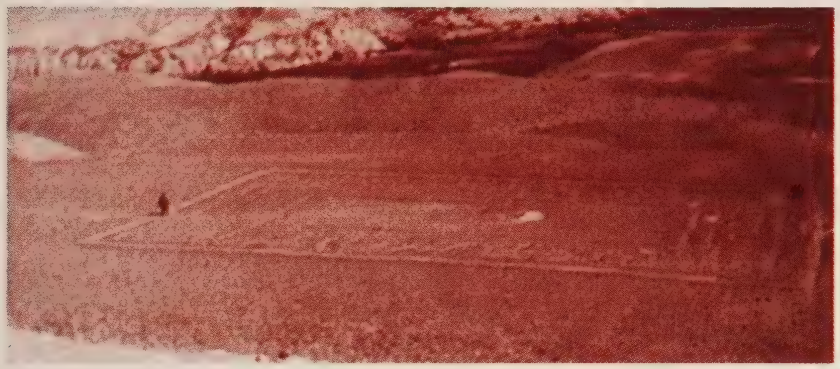
Knowledge of the exact chronology of the habitation of this region and details of the populations and economies are still in the very early stages of development, but it seems that the coastal area of southern Peru remained relatively uninfluenced by the Classic cultures farther north until about A.D. 500. Thus the inhabitants of the area retained characteristics of cultures that preceded agriculture and pottery until about A.D. 500, when the influence of the Andean Highland cultures (particularly the Tiahuanaco) began to increase and eventually changed the prevailing hunting and gathering economies.



Above: A young woman wears the traditional costume. Their cultural heritage is of growing concern to the young people of the region.



Right: Map showing environmental regions in the Arequipa area. (Drawn by Marie Hands.)



Above: From the peaks of the Andes down to an altitude of 3,000 metres, there is arable and habitable land on the slopes of the valleys. A complicated system of irrigated terraces makes agriculture possible.

Left: The sand drawing Gross-Munsa *at Quillcapampa measures 60 m × 30 m and resembles designs known from textiles of the Wari period (A.D. 800–1200).*

Thanks to the cooperation of the Peruvian Airforce and the Arequipa newspaper *Correo*, Dr. Linares and I were provided with a helicopter for a reconnaissance flight over the deserts to the west of Arequipa. Peasants in the region had told Dr. Linares of ruins and sand drawings in the deserts between the first three valleys northwest of Arequipa. From the descriptions, Dr. Linares concluded that the ruins must resemble those of Nazca. He hoped that our reconnaissance flight would verify their existence and pinpoint them on a map.

Shortly after take-off, two archaeological sites were located in quick sequence. At the edge of the first valley, clearly laid out in sand and volcanic ash, there was a large complex of walls about the size of a citadel. Three compounds could be clearly distinguished: the first was a simple line of buildings; the second, nearby, appeared to be a rather liberal aggregation of buildings; the third, separated from the other two by a slight depression, was also a linear structure. At the rim of the second valley, some thirty kilometres distant, we located an even more impressive settlement. As far as the eye could see, the edge of the valley was covered with round and rectangular masses of structures well preserved in the sand. Our view of them was so clear that preliminary maps can be drawn from the photographs we took. Unfortunately, the pilot's attempts to land were frustrated by the fine sand and volcanic ash that cover the sites. Next year we hope to outfit an expedition to reach the ruins by land and undertake the mapping and sampling necessary to permit us to identify the structures architecturally and chronologically.

Not far from the second site, Dr. Linares showed me a huge sand drawing he had discovered in 1976. It is a geometric design resembling those on textiles of the Wari period (A.D. 800–1200). Technically speaking, these sand drawings have little to do with sand. To prepare the contour for the painting, gravel was removed from the surface, which was then smoothed with a layer of mud. The steadily blowing wind prevents any accumulation of sand and volcanic ash and keeps the dried mud surface clean.

Above: In the centre of the village of Cabanaconde in the Upper Colca Valley, walls built in Inca times (13th to 14th century A.D.) are still standing.

Top: At Toro Muerto the valley is covered with rock engravings. Hundreds have already been inventoried, but thousands remain to be studied.

One valley to the west, we visited the famous site of Toro Muerto discovered by Dr. Linares in 1951. Situated in a side valley leading into the Majes canyon, the site begins about fifty metres above the valley bottom and stretches some five kilometres back, up to the level of the desert plains. Owing to a volcanic explosion in the Tertiary, this side valley is strewn with huge rocks; each rock bears engravings in the form of human beings, animals, geometric designs, and other symbols. To date Dr. Linares and his students have drawn and photographed many of these engravings; they hope to complete a systematic inventory and publish it sometime in the future. The analysis of the designs registered to date indicates that they resemble the well-known Tiahuanaco and Wari styles (A.D. 500–1200).

On our return flight, we located two additional sites of great interest in the desert between the Majes and Siguas valleys. The first covers an area of slightly more than a hectare and consists of stone circles two to five metres in diameter and stairlike sequences of stones. Between the steps are platforms from which the gravel has been removed and the surface smoothed with mud. The circles and stair-platforms are now partially filled with sand and volcanic ash. The second site is even more unusual: in a relatively small area, about a quarter of a hectare, right on the edge of the valley, fist-sized volcanic stones are laid out in a fashion resembling the layout of a citadel, with a mixture of square or rectangular

shapes and circles. However, the entire site is on a miniature scale. It is anybody's guess what these sites might have represented. Both merit detailed investigation, beginning with the mapping of their architectural features.

Thus the reconnaissance of the area west of Arequipa, just along the two bands the helicopter flew over, resulted in the location of two archaeological towns and two stations, all in the desert plains on the edges of arable valleys. There is little doubt that thorough surveying of the region would reveal more towns, citadels, villages, and stations. Their geographical and chronological positioning would enable us to establish the density and movements of human populations in the past in what is today uninhabited desert land.

Completely different from the deserts and valleys below the 3,000-metre level are the valleys, the *puna*, and the mountains above that level. In the Upper Colca Valley, for example, the terraces that line the sides of the valley have existed since pre-Inca times. Obviously the population of the region has declined drastically since Inca days, and today the upper terraces are abandoned. The lower ones, however, still provide a living for the present Quechua-speaking inhabitants. There are more than a dozen villages in the Upper Colca Valley, each within walking distance of the next, and each with a Colonial church and other buildings and ruins of constructions that go back to Inca times. One of these ruins is illustrated here. The two side walls were decorated with reliefs of animals. One of the two walls is still standing; the other fell during a rainstorm last year. No attempt is being made to reconstruct it; in fact, the present owner plans to use the carved rocks to build a stable.

The tradition of the Quechua-speaking people of this beautiful valley is only partly Native American; it is also undoubtedly partly Colonial. The men wear western clothes and are generally more modern in outlook than their wives, who still dress in the traditional way. Of particular interest are their handwoven textiles—shawls and square pieces of cloth used for carrying almost anything from babies to vegetables—which are still woven in the traditional manner and depict all the old designs. The young people are eager to maintain and cultivate their folk traditions. They have started to organize into groups that meet in the evening to practise the Quechua language, to make traditional dresses, and to receive instruction from the elders in the traditional songs and dances. This does not seem to conflict in any way with their daytime occupations, whether they work in the fields or are employed in pursuits of the industrialized world.

As far as both ethnology and archaeology are concerned, there is no doubt that much remains to be done to gain insight into the historical continuum of the area between Lake Titicaca and the Pacific coast. The archaeological sites Dr. Linares and I saw on our reconnaissance flight will have to be investigated and identified according to their cultural affinity, as will the many unknown sites that probably exist along the rims of the fertile valleys west of Arequipa. There is as yet no register of the archaeological ruins of Inca times that still exist in the present-day villages.

As an immediate step, to advance Dr. Linares' work, the Museum of the National University of San Agustín in Arequipa will play host to an international seminar in museology during July and August of 1982. The seminar will focus on the rock drawings of Toro Muerto and the textiles of the Upper Colca Valley, two well-defined aspects of the culture of the Native population, one pre-Colombian and the other both historical and contemporary.

Before joining the staff of the ROM *in 1967, Dr. Fuchs was Head of the Department of Archaeology and Ethnology at the Museo de Ciencias Naturales in Caracas and Visiting Professor at George Washington University in Washington, D.C. From 1974 through March of this year he was Curator-in-charge of the Department of Ethnology of the* ROM. *During his recent sabbatical from the* ROM, *he has been lecturing in Peru, Germany, and Mexico, and doing fieldwork in South America.*

The Recovery of the Commercial Natural Sponges in the Bahamas

An Ancient Industry Revived

Renate Carson

AT THE WEST END OF NASSAU, capital of the Bahamas, way past the elegant hotels, stands the sponge house, a simple wooden structure with its entrance raised well above the ground. On weekdays the shutters are thrown wide to admit sufficient light for the people inside to carry on their sponge business. Within the building, sponges lie scattered in loose heaps on the clean floorboards.

Mr. Pantelis Tsakkos, who is in charge of the sponge house, welcomes visitors and leads them to the large screw press which dominates the centre of the room where the sponges are pressed into quadrangular bales, ready for shipment. Two of the burlap-wrapped bales leaning against the press are addressed to Toronto; sponges distributed through the sponge house are shipped to many places in North America, South America, South Africa, Israel, and Europe. All the bales are the same size and weight, although the bills of lading show that they do not all contain the same number of sponges, since some varieties are heavier than others.

Sponging is an ancient trade in Greece, and Mr. Tsakkos continues the tradition in the Bahamas. Although he has been with the Psilinakis sponge business in Nassau for many years, English does not come easily to him, and he waves to one of his assistants, a local girl, and leaves her to explain the work to us.

Top: The sponge house on a Sunday.

Opposite page: Fishing boats at the bridge from Nassau to Paradise Island. This type of boat was used in the early days of Bahamian sponging.

In the corner of the room nearest the window sit two girls cutting and shaping sponges. Using sheep-trimming shears, they slice the large chunks of sponge into four, six, seven pieces, vigorously shake them to remove fine sand caught in the sponge network, and scrape off encrusting debris with sharp knives. Although the sponges are cleaned before they reach the workshop, they have to be inspected, sorted according to quality, and graded by size. Grading is done by passing the trimmed sponge through circular cutouts of various diameters in a wooden board. Our girl picks four sponges from the heap and explains to us the different uses for the several varieties.

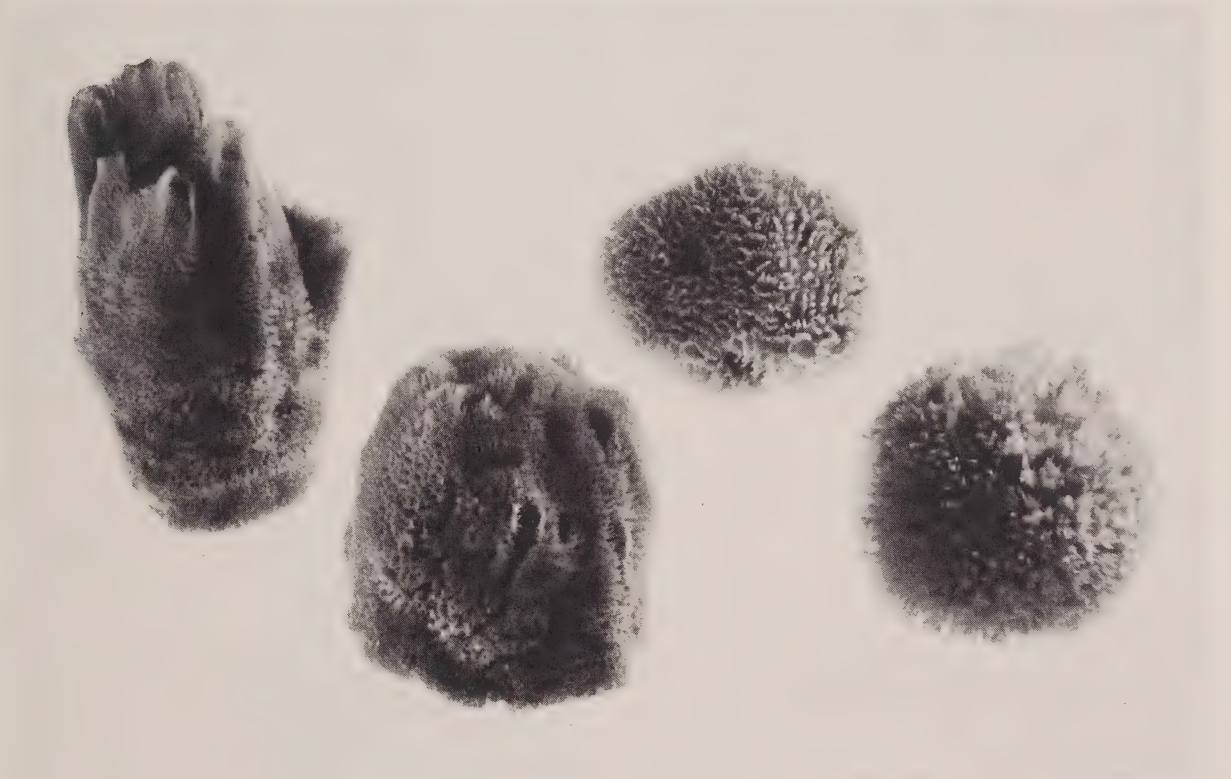
The dark yellow reef sponge is sold for cosmetic purposes. It is trimmed into a fair-sized wedge, which has a series of chimneys in organ-pipe fashion at its upper end. The chimneys terminate in porelike openings (oscula), from which, during the animal's life, wastes and the products of reproduction were ejected into the surrounding water. The hardhead sponge is cone-shaped with a flattened apex and its oscula have oval openings which jut barely above the surface. Because it has a rough texture, the hardhead sponge is particularly suitable for rough work such as scrubbing floors. The small yellow wool sponge is trimmed into a sphere. This sponge when fully grown—the time of growth is estimated at fifty years—reaches a circumference of more than a metre; the largest wool sponge found to date was almost two metres in circumference. Wool sponges are fleecy soft and people use them for bathing and for washing horses. In the grass sponge, the oscular openings are rather angular and closely set so that the upper surface of the dry sponge resembles a large honeycomb. The texture makes it suitable for washing cars and paintwork. I bought four sponges and then I left, just as Mr. Tsakkos was preparing for a five-day trip to the mud flats (nicknamed "The Mud") off Andros Island to pick up fresh supplies of sponges.

The Bahamian sponge trade was started by a Frenchman in the mid-19th century, when it became apparent that the islands, which were found to be naturally barren, offered no other indigenous saleable resource. The Bahamas rise from two banks which lie submerged at the bottom of the ocean; they form an arc of approximately seven hundred islands

stretching from the southeast tip of Florida to east of Cuba and cutting across the Tropic of Cancer. Although only some of the islands lie in tropical waters, the temperatures of the waters around the islands to the north are modified by the Gulf Stream. Warm water temperatures favour the growth of coral reefs which, together with the limestone that forms the base of the islands, provide the hard, rocky bottom favourable to the settling of the motile sponge larvae. However, larval settlement is not restricted to hard surfaces and the greatest concentration of commercial sponges is on the mud flats near Andros Island. There sponges grow attached on very shallow bottom so that they can be gathered easily; they are plucked with a long-handled hook from the side of a fishing boat.

Back in the laboratory in Toronto, I cut some shreds from each of the four sponges I had bought, mounted them in a few drops of water on microscope slides, and looked at them through the microscope. On the slides lay soft honey-yellow transparent fibres intertwined in a complicated network. The meshes of the network were in the shapes of polygons: triangles, quadrangles, pentagons, and hexagons. I found the largest area of mesh in the hardhead sponge. The diameter of the fibres of the four sponges varied very little, although the fibre of the reef sponge appeared to be the largest. When the sponge cuttings were immersed in water and then allowed to drain and held in forceps against the light, it was apparent that the previously air-filled mesh spaces were now occupied by glittering water drops held in place by capillary force.

In most sponges, the fibres are made up of collagen, often impregnated with siliceous or calcareous spicules and particles, which make the sponges hard and prickly. In the natural commercial sponges, the fibres consist of a pliable protein called spongin, which makes the sponges soft and elastic. Although many Bahamian sponges exist, there are only five known to possess fibres lacking spicules, pith, or particles—the four already described and the velvet sponge. I tested the four sponges I had bought to find out which one soaks up the greatest amount of water. I weighed each of the sponges dry, soaked them in the sink, drained them until they stopped dripping, and then weighed each one again. The wool sponge absorbed by far more water per gram of body weight.



Above: Pore patterns of excurrent canal openings. Left to right: reef sponge, hardhead sponge, grass sponge, wool sponge.

Opposite page: Sheep-trimming shears used for trimming sponges.

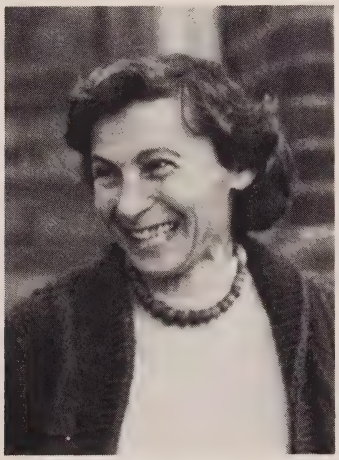
Velvet sponge in the ROM *collection. The last time a velvet sponge was sighted in the Bahama Banks was in 1941.*

Live sponges are fleshy animals; what is traded on the market as sponge is nothing but the supportive skeleton, in fact only a part of a much larger fibre network. The skeleton is embedded in massive connective tissue, the cortex, in which innumerable minute chambers lie scattered. These chambers are the pumping stations which pump nutrient-rich water through the body by means of specialized cells which line the chambers. Cell-lined canals, which are the pathways for entry and exit of the circulating water currents, interconnect with the chambers. The commercial natural sponges taken from the shallow banks of the Bahamas are enveloped in a thin black cell membrane which is protected by a slimy jelly. The sponges are usually of irregular shape and are attached so that most of the oscula are located on the upper surface. To many animals, such as minute shrimps and worms, the sponge is a convenient place of refuge, with cavities to hide in where an abundance of nutrients is swept in by water currents. The little animals are provided with a sheltered existence for extensive periods, sometimes even for the remainder of their lives.

To extricate the skeletal fibres for commercial use, all fleshy components must be removed. This is done by spreading the gathered sponges on sunny beaches when the tide is out and leaving them to rot in the heat. The rotting flesh is beaten out with sticks, or is kneaded out by stamping feet. To prevent the loss of sponges with the rising tide, the fishermen plant stakes around them to form a kraal. When the tide recedes, the putrid flesh is washed out to sea, leaving the sponge skeletons trapped in the kraal. The process is repeated over several days until there is nothing left but the spongin fibres. Only then are the sponges delivered to the workshop.

The sponge house is only a modest reminder of a once very prosperous industry. Bahamian sponge production almost came to a standstill in the 1930s when a disease struck the commercial sponges. A fungus settled in their internal canals, blocking them and preventing entry of nutrients and elimination of wastes. Thus deprived, the animals died by the thousands, but fortunately it was possible to revive the populations and to re-establish a moderate trade. All the sponges that were used commercially before the disease struck have made a comeback—with the exception of the velvet sponge. Luckily a velvet sponge from Nassau was deposited in the ROM Invertebrate Collection in 1930, so that visitors to the Museum still have the opportunity to view an example of this now seemingly extinct sponge which was once the pride of commercial sponging in the Bahamas.

Mr. Pantelis Tsakkos in the doorway of the sponge house.



Renate Carson joined the ROM in 1976 and is a Curatorial Assistant in the Department of Invertebrate Zoology. She was born in Czechoslovakia and educated in England and the United States, where she obtained an M.Sc. in biology from the American University. After a short teaching career she joined the staff of the Smithsonian Oceanographic Sorting Center in Washington, D.C. Before her move to Canada in September 1975, Ms. Carson spent a summer at the Marine Biological Laboratory in Woods Hole, Massachusetts.

Photos: pp. 28, 29, 30 Renate Carson, ROM; pp. 31, 32, Photography Department, ROM; p. 33 Lisa ter Woort.

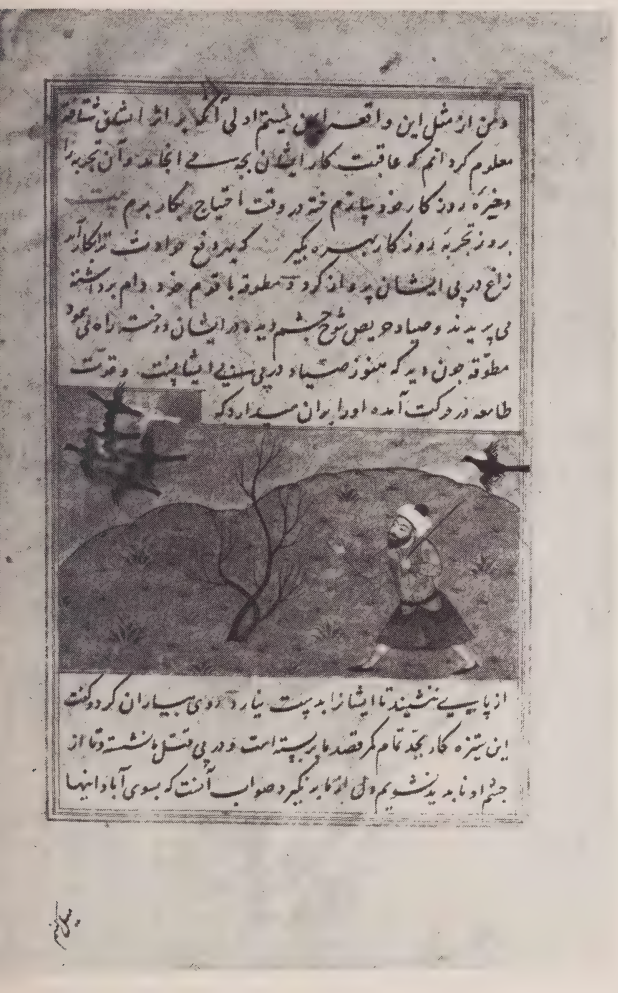
The Growing Collections

Although its galleries have been closed for more than a year, the European Department continues to be offered gifts, both large and small, from old and new friends of the Museum. Recently one of our long-standing benefactors, who wishes to remain anonymous, presented the department with a very fine group of decorative art which includes ceramics, glass, silver, other metalwork, portraits, and several pieces of furniture. The most commanding piece is an elaborate mid-18th-century armoire from southern Germany. This fine Rococo piece is covered in marquetry of various woods over an oak carcass. This piece, along with a small Venetian commode-cupboard, adds to the limited amount of Continental Rococo furniture in our collections.

The silver includes a very good example of a Scottish "thistle cup" by John Luke with hallmarks for Glasgow, 1708/9, and a tea and coffee service by Robert Hennell II, London, 1824/25. This service constitutes our finest example of English silver in the early Rococo Revival style of the 1820s. Other silver includes three early 19th-century Irish pieces, a goblet-shaped German spice box of the early 18th century used in Jewish ritual, a French chalice of 1678 which was apparently repaired and given a new bowl by Laurent Amiot in Quebec about 1800, a number of pieces of Baltic silver, an inkstand of Chinese fret design by S. Herbert & Co., London, 1759/60, and various pieces that fill gaps in our holdings. Of the metalwork, a rapier by Bourdin of Paris, c. 1700, and an étui (illustrated) painted in south Staffordshire enamels, c. 1765, are well worth noting. During the 18th century, the étui functioned as a tool-box for the fair sex. Exquisite models were made in France and England. Our étui contains everything from a combined toothpick-ear-cleaning spoon to a folding ruler and scissors for needlework and a set of ivory tablets upon which one wrote reminders with a pencil, now long lost. The delicate ground colour of turquoise green is in remarkably fresh condition. This piece significantly complements our collection of English enamels and our other pieces of vertu.

The ceramics in the gift include a partial Coalport dessert set, c. 1815, a Chamberlain's Worcester tea service of similar date, examples of English pearlware dessert pieces with botanical decoration, c. 1800, and an Art Deco figurine of a Polish horseman by the well-known firm of Robj of Paris. The rarest item is a porcelain plate (illustrated), c. 1780, from the Cozzi factory near Venice. Pre-1800 Italian porcelain is seldom seen outside Italy. The glass includes a useful group of Bohemian ornamental vessels, c. 1835–60, and two pieces of early 19th-century Anglo-Irish glassware with a family crest. Some Chinese porcelain and glass went to the Far Eastern Department and a small group of pressed glass was added to the Canadiana Department collections. In these busy times when heavy demands are being made on our staff and storage space is limited, we appreciate the help given in accommodating this collection. C.P.K.

Photos: p. 37 Eric Lin, Laboratory of Analytical Systematics, ROM; all other photographs Photography Department, ROM.



The West Asian Department now holds three illustrations from 16th-century Persian manuscripts of the renowned fables of Bidpai, the *Tales of Kalila wa-Dimna*. The leaf on the left, with its attractive gold sky, comes from the beginning of the story of four unlikely friends who help each other in time of need: a crow, a mouse, a ring-dove, and a gazelle. In this painting the wise old crow watches a group of birds escape from a fowler by flying away with the net in which he has trapped them. The leader, a ring-dove, urges his companions: "Strive together to lift the net and fly over the cities and trees so that the eye of the fowler will lose us and he will tire." The ring-dove directs the flock to the home of his friend mouse, who chews the net and frees them.

The second leaf (right) comes from an album of calligraphy and is signed by Amir Sayyid. Fine, elegant handwriting was considered the highest form of art and an indication of the spiritual character of the writer. Here a Sufi (mystical) poem is written in diagonal lines on "clouds" against a gold ground. The margins of the album page are filled with delicate drawings in gold of birds, animals, and plants. The page was probably composed in Iran in the 17th century. L.G.

A discipline of entomology that is moderately well known from a systematic point of view, but little understood biologically, is the study of gall insects. These insects induce the plant to provide food, shelter, and protection in the form of a gall (an abnormal swelling of the plant tissue) called an entocecidium. The gall insects are the most numerous of the gall-inducing groups and have received a great deal of attention and documentation.

Insects and their associated galls are not often well represented in entomological collections because of their somewhat inconspicuous nature. Hence, many collectors do not recognize galls as being abnormal to the plant.

The insect illustrated here is a female of the Mealy Oak Gall Wasp, *Disholcaspis cinerosa*, whose larvae secrete chemicals that induce the Live Oak, *Quercus fusiformis*, to form the galls also illustrated here. The galls and wasp were collected near San Antonio, Texas, and donated to the Department of Entomology by Mr. R. Piegler of Texas A & M University. The Mealy Oak Gall is one of the most common galls on Live Oak in Texas. B.D.M.

Through the generosity of Mr. R. E. Hindley, the Greek and Roman Department recently acquired a silver stater of Celenderis on the coast of Cilicia in Asia Minor. It was probably struck about 420–400 B.C. A young man dismounts from his horse on the obverse (left) and a finely modelled kneeling goat looks backward on the reverse (right). It has been suggested that these motifs were used because the Greek words for a racehorse and a particular type of goat were considered to be puns on the name of the city. This is the first example of the coinage of Celenderis in our collection of ancient coins. A.H.E.

About 370 specimens have been registered into the collections of the Department of Mineralogy and Geology since our last report. Of these, ten are species new to the collection and include four type specimens.

A grant from Wintario to the ROM made possible the purchase of an exceptional sodalite crystal from Mont St. Hilaire, Quebec. The dodecahedral crystal, about one centimetre in diameter, is brilliant blue, translucent, and set in a matrix of white analcime. This is not only a very beautiful piece but, as far as we know, it is unique. Two very nice specimens of cubanite crystals, one on matrix and the other loose, from Chibougamau, Quebec, were acquired by exchange with Laval University, Quebec City. Another exchange was completed with the Swedish National Museum of Natural History, Stockholm.

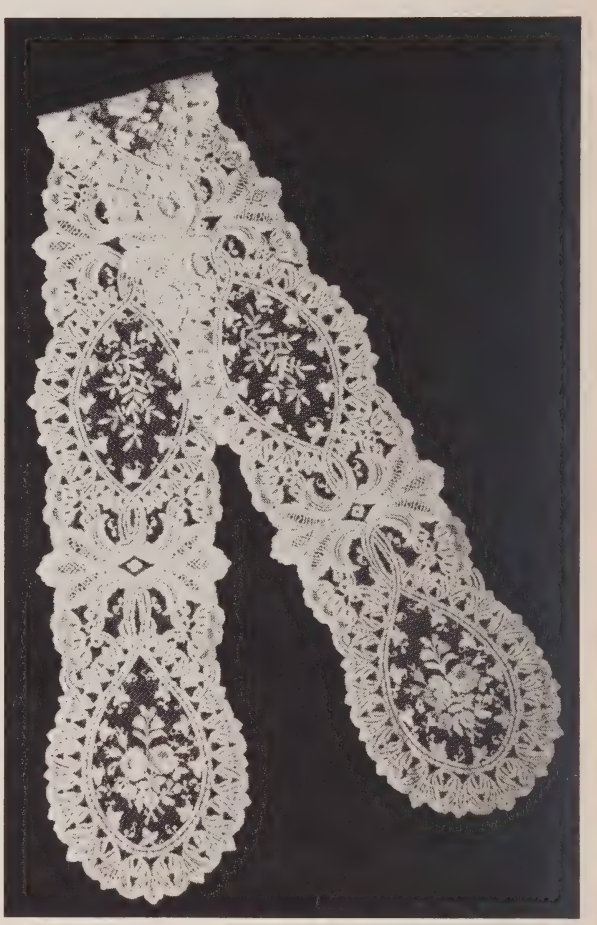
A collection of quartz crystals from Montgomery County, New York, makes an interesting addition, especially a pseudoskeletal crystal presented by Mr. Corie N. Suter of Hagersville, Ontario, and a fascinating tabular crystal given by Mr. William G. Petronis of Ballston Lake, New York.

One of the new species added to the collection is tancoite, a mineral never before found in nature, which was discovered by Robert A. Ramik. Mr. Ramik, an active and keen mineral collector, joined this department in 1977 as a technician. He has provided the following description of tancoite: "Tancoite is one of several rare phosphate minerals recently discovered at the Tanco Mine, Bernic Lake, Manitoba. Chemically it is a lithium sodium aluminium phosphate hydroxide, with the formula $HLiNa_2Al(PO_4)_2(OH)$, and examples of the minute crystals (less than 1 millimetre in diameter) were found on only two specimens. The photomicrograph shows the shape of the crystals which are colourless to pale pink; the centre crystal is ½ millimetre across. It is hoped that an ongoing study of the minerals from the Tanco pegmatite will reveal more species that are new to the science of mineralogy."

Following his discovery of this new mineral, Mr. Ramik collaborated with Darko Sturman of the ROM, Pete Dunn of the Smithsonian Institution in Washington, D.C., and Prof. A. S. Povarennykh of the Institute of Geochemistry and Physics of Minerals in Kiev in preparing the full description of the mineral that appeared in *The Canadian Mineralogist*, Vol. 18, Pt. 2, 1980. R.I.G.

A collection of laces donated to the Textile Department by Mrs. Rheta Conn in March 1980 includes two particularly fine and rare pieces. The collar (bottom) is exquisitely made of needle lace called *gros point de Venise*. The large floral pattern indicates a 17th-century date—a period when laces were made to resemble, and were sometimes compared to, carved ivory. In both corners a composition of small flowers creates the effect of one large flower, while the central flower is of a different design. Between the motifs is a large ornate leaf in a C-shape. There are many fancy fillings, one of which is in the diaper pattern. The neck edge, which is sewn on, is of plaited bobbin lace. These small strips were added to protect the lace from wear and tear and were sometimes renewed. Colbert, minister at the court of Louis XIV, worried about the amount of money being spent on lace outside the country and started the manufacture of Venetian-style lace in France.

The lappet (right) is made of bobbin lace called *dentelle de Gand à réseau varié* (Ghent lace with a varied ground). It is sometimes incorrectly called *Valenciennes de Gand*. There are two types of bobbin lace: that made all in one piece and that assembled. This lappet has been assembled. Dating from the Second Empire, the lappet is composed of five medallions with flower bouquets. They are edged by a tulip-form leaf design and between the medallions is an ornamental leaf motif. The finest thread was used and the pattern of the ground—a large square mesh—originated in Ypres (Belgium). *Dentelle de Gand à réseau varié*, usually made in an orphanage for girls, enjoyed royal patronage. E.M.S.



The Textile Department has recently purchased a rare 17th-century Chinese coat fragment, consisting of the fronts and back of a red satin overcoat. The dragon design is embroidered with gold-wrapped threads and silk floss; this design marks an important transition from the dragon-patterned garments of the Ming Dynasty (1368–1644) to the newer nomadic garment types introduced by the Manchu after the conquest in 1644.

This fragment was never actually made up into a garment (the photograph, left, has been assembled to show how the finished garment would have been made) and may not have had sleeves, possibly being a forerunner to the sleeveless court coats worn by Manchu women. A range of front-opening overcoats with large dragon patterns was created during the early years of Manchu control. Several are known from portrait paintings (above) though none has survived intact. The addition of this piece to the Toronto holdings is particularly important, since it joins the only comprehensive group of 17th-century garments and fragments in a western collection—a collection that permits us to document the evolution of Ch'ing Dynasty (1644–1911) court attire. J.E.V.

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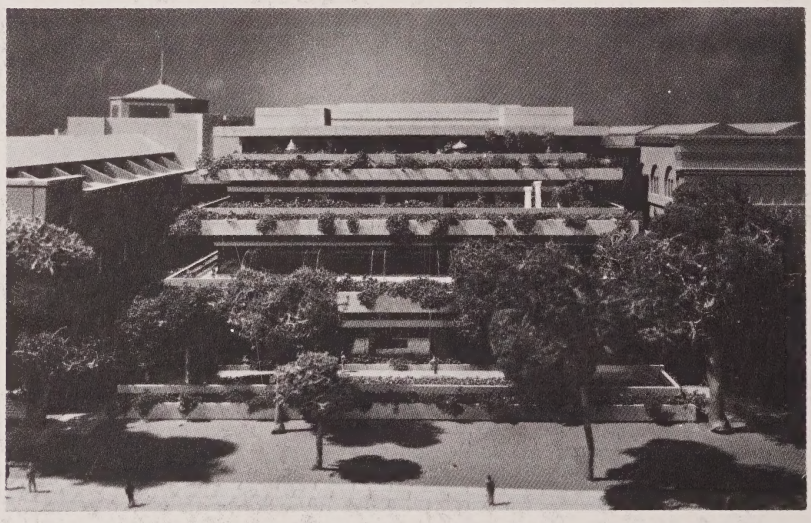

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